

Nico D'Cotta

Backend Software Engineer



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EXPERIENCE

11/2023 – today

Backend Software Engineer III, at Monzo Bank

SRE-heavy security-focused role with very wide scope.

Owner of secret-management, public-key infrastructure, and preventive and detective security controls (eg. around **intrusion, exfiltration, DDoS**...).

Maintainer of critical zero-downtime infrastructure such as **Kubernetes, cloud networking**, and **sensitive key material** management.

06/20 – 11/23

part-time,
then Engineer,
then Senior Engineer

Senior Backend Software Engineer, at Blockchain.com

Owned several **JVM** (mainly **Kotlin**) real-time financial services critical for business operation and central to to user experience and transaction auditing; like ledger-keeping/accounting and indicative pricing.

Designed and scaled up **stateful distributed** systems with an event-driven architecture.

Reviewed systems' architecture designs and software development methods to cultivate **sustainable engineering practices** and achieve **operational excellence** within the wider company.

06/19 –

10/19
intern

Software Engineer, at Emit, Inc.

Four-person startup with its own smartwatch aiming to provide time-analytics to institutional customers.

Provided real-time insights on customer data by developing data processing pipelines and libraries in **Kotlin** and **Python** on top of serverless tech on **AWS (Lambda, DynamoDB, ElasticSearch)**.

EDUCATION

2018 – 2022

MEng Computer Science – First Class Honours, at Imperial College London

Focus on Software Engineering, Distributed Systems, Network and Computer Security, Systems and Data Scalability, Logic-based AI, Type Systems for Programming Languages, Simulation & Modelling.

Additional Business School modules include Project Management, Finance & Financial Markets, and Business Strategy.

2015-2018

French Baccalaureate (S-SI) – Highest Honours, at French Lycée of Madrid

High-school diploma with **Engineering Sciences with Further Maths** specialisations, and completed optional Portuguese and Music modules.

Extracurriculars include two Model UNs, Drama, Choir, student representative, competing in the basketball team.

PROJECTS

see my full portfolio at nico.dcotta.com

AWS (Lambda,
DynamoDB, EC2),
Kotlin, VueJS

DJStreamr, collaborative streaming service for DJs

[djstreamr.com](https://github.com/djstreamr)

Music synchronisation protocol implemented as a webapp with an event-driven platform architecture which leverages serverless technology.

Elixir, Paxos

Multi-Paxos implementation

[cottand/multi-paxos](https://github.com/cottand/multi-paxos)

Implementation of a variation of the Paxos consensus algorithm (comparable to Raft), as specified in the paper *Paxos Made Moderately Complex*.

Kotlin, JVM
bytecode, ARM11
assembly

WACC, multiplatform compiler

[cottand/WACC](https://github.com/cottand/WACC)

Multiplatform compiler from WACC (a toy language) to JVM bytecode and ARM11 64-byte assembly that supports basic constructs like stack-allocated primitives, and heap-allocated arrays and pairs.

TECHNOLOGIES

Proficient in JVM (Kotlin, Java), Gradle

Experience with Go, Python, C, Haskell, Typescript, Elixir

Nomad, Nix + NixOS, AWS (Lambda, DynamoDB EC2, S3, CodeDeploy, API Gateway)

gRPC + protobufs, Kafka, Akka, PostgreSQL, Redis, Cassandra, APM, Docker, React, VueJS

Object-oriented, Functional, Actor-oriented, and Procedural programming.

HOBBIES

I enjoy DJing as well as kitesurfing and rock climbing!

LANGUAGES

English - bilingual (C2 certification)

Spanish - native

French - bilingual

Portuguese - advanced level

SKILLS + FEEDBACK

"Pleasant to work with"

"Aware of product quality"

"Knows which battles to pick"

I can google well!